

PTO/SB/21 (08-03)  
Approved for use through 08/30/2003. OMB 0651-0031  
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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/669,263
	Filing Date	25 Sep 2003
	First Named Inventor	Wang ✓
	Art Unit	1764
	Examiner Name	Basia A. Ridley ✓
Total Number of Pages in This Submission	Attorney Docket Number	12859BDIV

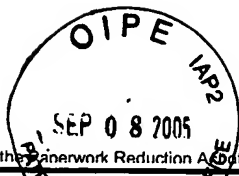
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Form 1449 w/ref
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Frank Rosenberg
Signature	<i>Frank Rosenberg</i>
Date	6 Sep 2005

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	Esmeralda Mestizo
Signature	<i>Esmeralda Mestizo</i>
Date	6 Sep 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/17 (12-04v2)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Effective 12/08/2004.

Fees pursuant to Consolidated Appropriations Act, 2005 (H.R. 4818).

# FEE TRANSMITTAL

## For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180

**Complete if Known**

Application Number	10/669,263
Filing Date	25 Sep 2003
First Named Inventor	Wang
Examiner Name	Basia A. Ridley
Art Unit	1764
Attorney Docket No.	12859BDIV

**METHOD OF PAYMENT (check all that apply)**☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_☐ Deposit Account Deposit Account Number: 501749 Deposit Account Name: Frank Rosenberg

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES****Fee Description**

	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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- 20 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
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- 3 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
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- 100 = \_\_\_\_\_ / 50 = \_\_\_\_\_ (round up to a whole number) x \_\_\_\_\_ = \_\_\_\_\_

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): fee pursuant to 37 CFR 1.17(p) for Information Disclosure Statement

Fees Paid (\$)

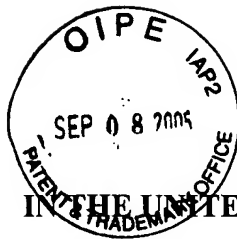
180

**SUBMITTED BY**

Signature	<u>Frank Rosenberg</u>	Registration No. (Attorney/Agent) 37,068	Telephone 925-376-8416
Name (Print/Type)	Frank Rosenberg		Date 6 Sep 2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :  
Wang et al. :  
Application No. 10/669,263 : Art Unit: 1764  
Filed: Sep 25, 2003 : Examiner: Basia A. Ridley  
For: CATALYSTS REACTORS AND : Atty Docket: 12859B-DIV  
METHODS OF PRODUCING :  
HYDROGEN VIA THE WATER- :  
GAS SHIFT REACTION :

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to the duty of disclosure under 37 CFR §§ 1.56 and 1.97-1.99, the documents listed on the attached Form(s) PTO-1449 are being brought to the attention of the Examiner in charge of the above-identified application. The fee set forth in 37 CFR § 1.17(p) is provided for in the accompanying Fee Transmittal Form. Any additional fees required for consideration of this paper, that are not provided for in the Fee Transmittal Form, are hereby authorized to be charged to Deposit Account No. 50-1749.

The Examiner is respectfully requested to initial the space adjacent each document entry on the Form(s) PTO-1449, and to return a copy of the initialled Form(s) PTO-1449 to confirm that the documents have been considered and have been officially made of record in this application.

09/09/2005 EAYALEW1 00000031 10669263

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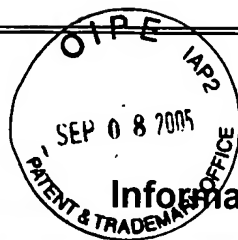
If the Examiner has any questions or wishes to discuss this application, the Examiner is invited to telephone the undersigned representative at the number set forth below.

Respectfully submitted,

Date: 6 Sep 2005

By: Frank S. Rosenberg

Frank S. Rosenberg  
Registration No. 37,068  
Tel. No. 925-376-8429



Form PTO-1449

## Information Disclosure Citation

Attorney Docket  
12859B-DIVApplication No.  
10/669,263Applicant  
Wang et al.Filing Date  
Sep 25, 2003Group Art Unit  
1764

## U.S. Patent Documents

Examiner Initial		Patent Number	Date	Name	Class	Sub-Class	Filing Date
	AA	6,436,363	2002	Hwang et al.	423	651	8/31/2000
	AB	5,482,680	1996	Wilkinson et al.	422	177	
	AC	4,472,533	1984	Moskovits	502	320	
	AD	5,422,331	1995	Galligan et al.	502	333	
	AE	4,975,406	1990	Frestad et al.	502	332	
	AF	5,075,277	1991	Saiai et al.	502	333	
	AG	6,040,266	2000	Fay, III et al.	502	439	
	AH	6,524,550	2003	Chintawar	423	650	5/2/2000
	AI	6,162,267	2000	Priegnitz	48	199	

## Foreign Patent Documents

		Document Number	Date	Country	Class	Sub-Class	Translation
	AJ	WO 00/06295	2/10/2000	PCT			Yes No
	AK	WO 99/00186	1999	PCT			Yes No
	AL	WO 01/12312	2001	PCT			Yes No
	AM	WO 00/06301	2000	PCT			Yes No
	AN	EP 0529329A2	1993	Europe			Yes No
	AO	EP 0406896A1	1991	Europe			Yes No

## Other Documents (Including Author, Title, Date, Pertinent Pages, etc.)

	AP	International Search Report from PCT/US 02/04528 (October 2002)
	AQ	Lee et al., "Effect of Basic Additives on Pt/Al <sub>2</sub> O <sub>3</sub> for CO and Propylene Oxidation under Oxygen-Deficient Conditions," Ind. Eng. Chem. Res., vol. 36 (1997).
	AR	Leonov et al., "Monolithic Catalyst Supports With Foam Structure," React. Kinet. Catal. Lett., vol. 60, pp. 259-267 (1997).
	AS	Twigg et al., "Metal and Coated-Metal Catalysts, Chapter 3, pp. 59-89

Examiner

Date Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

**Form PTO-1449****Information Disclosure Citation**Attorney Docket  
12859B-DIVApplication No.  
10/669,263Applicant  
Wang et al.Filing Date  
Sep 25, 2003Group Art Unit  
1764**U.S. Patent Documents**

Examiner Initial		Patent Number	Date	Name	Class	Sub-Class	Filing Date
	AA	5,030,440	1991	Lywood et al.	423	655	
	AB	5,674,301	1997	Sakai et al.	48	61	
	AC	6,497,856	2002	Lomax et al.	423	651	
	AD	5,866,734	1999	Flick et al.	585	260	
	AE	6,025,297	2000	Ogura et al.	502	300	
	AF	5,482,680	1996	Wilkinson et al.	422	177	
	AG	6,440,895	2002	Tonkovich et al.	502	439	1/27/2000
	AI	5,366,719	1994	van Wingerden et al.	423	659	
	AJ	6,562,315	2003	Korotkikh et al.	423	656	10/30/2002
	AK	2005/0072048	2005	Lesieur	48	127.9	5/27/1999

**Foreign Patent Documents**

		Document Number	Date	Country	Class	Sub-Class	Translation
	AL	TW 374824	1999	Taiwan			Yes
	AM						
	AN						
	AO						

**Other Documents** (Including Author, Title, Date, Pertinent Pages, etc.)

	AP	Tonkovich et al., "Microchannel reactors for fuel processing applications. I. Water gas shift reactor," Chem. Eng. Science, 54, pp 2947-2951 (1999).
	AQ	Tonkovich et al., "Microchannel Chemical Reactors for Fuel Processing," Process Mini., 2nd Intl. Conf. On Micro Technology, pp 186-195 (1998).
	AR	
	AS	

Examiner

Date Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.